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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,181	08/30/2000	Todd A. Dickinson	A-68392-2/DJB/RMS/DCF	2424

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EXAMINER

FORMAN, BETTY J

ART UNIT PAPER NUMBER

1634

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

8-17-1

**Office Action Summary****Application No.**

09/651,181

**Applicant(s)**

DICKINSON ET AL.

**Examiner**

BJ Forman

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1634

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 17-23, 29-31 and 48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 17-23, 29-31 and 48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/01, 4/01</u> . | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Status of the Claims***

1. This action is in response to papers filed 4 March 2004 in which applicant traversed the previous rejections. Applicant's arguments have been considered. The previous rejections are withdrawn in view of Applicant's arguments.

New grounds for rejection are discussed.

Claims 1-10, 17-23, 29-31 and 48 are under prosecution.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is indefinite for the recitation "the wall angle" because the recitation lacks proper antecedent basis in Claim 17.

Claim 20 is indefinite for the recitation "said alternatively shaped wells" because the recitation lacks proper antecedent basis in Claim 17.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5-10, 17-23, 29-31 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by McDevitt et al (U.S. Patent No. 6,680,206 filed 16 July 1999). This reference claims priority to Provisional Application 60/093,111, filed 16 July 1998. The instant rejection cites passages in both the patent and the priority documents. Citations from the patent are referred to by "Column". Citations from the priority document are referred to by "Page".

Regarding Claim 1, McDevitt et al disclose a composition comprising a substrate comprising a surface having discrete wells (i.e. cavity) configured to hold a single microsphere (i.e. particle)(Column 9, lines 60-67 and Fig 2: Page 12, lines 19-20) a population of microspheres in the wells (Abstract: Page 6, lines 23-29) and the composition further comprising a reflective layer coating the bottom of the wells (Column 11, lines 5-11 and Column 36, lines 32-40: Page 12, lines 4-6 and Page 13, lines 20-25).

Regarding Claim 2, McDevitt et al disclose the compositions wherein the microspheres comprise a bioactive agent (Column 5, lines 34-49: Page 7, lines 17-22).

Regarding Claim 3, McDevitt et al disclose the composition wherein the bioactive agent is fluorescent (e.g. Column 18, lines 25-33: Page 17, lines 4-27).

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Regarding Claim 5, McDevitt et al disclose the composition wherein the substrate is planar (Column 8, line 59-Column 9, line 50: Page 11, lines 15-30).

Regarding Claim 6, McDevitt et al disclose the composition wherein the substrate is glass or plastic (Column 8, lines 63-64: Page 11, lines 15-17).

Regarding Claims 7-8, McDevitt et al disclose the composition wherein the reflective layer comprises gold or silver (Column 11, lines 6-11: Page 13, lines 19-21).

Regarding Claim 9, McDevitt et al disclose the composition wherein the reflective layer is dielectric i.e. silicon (Column 8, lines 63-66 and Column 11, line 53-Column 12, line 38: Page 11, lines 28-30 and Page 14, lines 13-30).

Regarding Claim 10, McDevitt et al disclose the composition wherein the reflective layer absorbs some light i.e. "substantially reflective" (Column 36, lines 32-35: Page 13, lines 19-27).

Regarding Claim 17, McDevitt et al disclose an array composition comprising a substrate comprising a surface having an array of wells (i.e. cavity) configured to hold a single microsphere (i.e. particle)(Column 9, lines 60-67 and Fig 2: Page 12, lines 19-20) a population of microspheres in the wells (Abstract: Page 6, lines 23-29) wherein the microspheres comprise a bioactive agent (Column 5, lines 34-49: Page 7, lines 17-22)and the composition further comprising a reflective layer coating the bottom of the wells (Column 11, lines 5-11 and Column 36, lines 32-40: Page 12, lines 4-6 and Page 13, lines 20-25).

Regarding Claim 18, McDevitt et al disclose the composition wherein walls of the wells are sloped (Fig. 2, Column 9, lines 20-25: Page 12, lines 2-6).

Regarding Claim 19, McDevitt et al disclose the composition wherein the wells contain a rounded interior (i.e. spherical or oval, Column 9, lines 34-36: Page 12, lines 8-10).

Regarding Claim 20, McDevitt et al disclose the composition wherein the wells are geometrically shaped e.g. pyramidal, spherical, oval, cubic or rectangular (Column 9, lines 34-36: Page 12, lines 8-10).

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Regarding Claim 21, McDevitt et al disclose the composition wherein the wells have a square cross section (Fig. 2 and Column 9, lines 34-36: Page 12, lines 8-10).

Regarding Claim 22, McDevitt et al disclose the composition wherein the bioactive agent is fluorescent (e.g. Column 18, lines 25-33: Page 17, lines 4-27).

Regarding Claim 23, McDevitt et al disclose the composition wherein the bioactive agent comprises DNA (Column 5, lines 34-49: Page 7, lines 17-24).

Regarding Claim 29, McDevitt et al disclose an array composition comprising a substrate comprising a surface comprising discrete wells (i.e. cavity) configured to hold a single microsphere (i.e. particle)(Column 9, lines 60-67 and Fig 2: Page 12, lines 19-20) a population of microspheres in the wells (Abstract: Page 6, lines 23-29) wherein the microspheres comprise a bioactive agent (Column 5, lines 34-49: Page 7, lines 17-22) and the composition further comprising a reflective layer coating the bottom of the wells (Column 11, lines 5-11 and Column 36, lines 32-40: Page 12, lines 4-6 and Page 13, lines 20-25) wherein the microspheres comprise a bioactive agent (Column 5, lines 34-49: Page 7, lines 17-22) and a single transducer i.e. fluorescent (e.g. Column 18, lines 25-33: Page 17, lines 4-27).

Regarding Claim 30, McDevitt et al disclose the array composition wherein the signal transducer is an intercalator e.g. ethidium upon ligand-receptor binding the microsphere comprises the intercalator as claimed (Column 18, line 66-Column 19, line 20: Page 18, lines 1-9).

Regarding Claim 31, McDevitt et al disclose the array composition wherein the signal transducer is a fluorophore (e.g. Column 17, lines 40-43 and Column 18, lines 25-33: Page 17, lines 4-27).

Regarding Claim 48, McDevitt et al disclose the composition of Claim 1 wherein the microspheres comprise a first and second population of microspheres i.e. particles having a variety of receptors (Column 8, lines 41-58: Page 11, lines 6-7).

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***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDevitt et al (U.S. Patent No. 6,680,206 filed 16 July 1999) in view of Walt et al (U.S. Patent No. 6,023,540, filed 14 March 1997) OR Pinkel et al (U.S. Patent No. 5,690,894, issued 25 November 1997).

Regarding Claim 4, McDevitt et al disclose a composition comprising a substrate comprising a surface having discrete wells (i.e. cavity) configured to hold a single microsphere (i.e. particle)(Column 9, lines 60-67 and Fig 2: Page 12, lines 19-20) a population of microspheres in the wells (Abstract: Page 6, lines 23-29) and the composition further comprising a reflective layer coating the bottom of the wells (Column 11, lines 5-11 and Column 36, lines 32-40: Page 12, lines 4-6 and Page 13, lines 20-25). McDevitt et al further teach the substrate is composed of any material capable of supporting microspheres e.g. glass, plastic (Column 8, lines 59-64) and providing a "window" at the bottom of the well for microsphere detection (Column 9, lines 50-590 but the do not specifically teach a fiber optic bundle substrate.

However, fiber optic substrates were well known in the art at the time the claimed invention was made as taught by Walt et al and Pinkel et al. Walt et al and Pinkel et al teach the advantages of fiber optic substrate include the ability to analyze thousands of analytes of

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different chemistry and/or analytes (e.g. pH and target binding) using a single substrate (Walt, Abstract and Pinkel , Column 6, Lines 39-67).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the fiber optic substrate of Walt and Pinkel to the analyte detection composition of McDevitt et al for the expected benefit providing for analysis of thousands of different chemistries (e.g. pH and target binding) using a single substrate (Walt, Abstract and Pinkel , Column 6, Lines 39-67).

#### **Prior Art**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: McDevitt et al (U.S. Patent No. 6,602,702).

#### **Conclusion**

9. No claim is allowed.

10. The examiner for this application has changed. Please address future correspondence to Examiner BJ Forman, Art Unit: 1634.

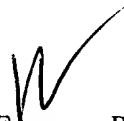
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
May 19, 2004